

CLAIMS

I claim:

1 1. A fuel pump assembly for a combustion engine, comprising:
 2 a pump housing configured for mounting to a combustion engine,
 3 said pump housing having a longitudinal axis and a curved exterior surface
 4 substantially co-axial with respect to said longitudinal axis,
 5 a flexible diaphragm and a diaphragm actuator for reciprocating said diaphragm
 6 positioned in said pump housing,
 7 said diaphragm extending substantially normal to said longitudinal axis and
 8 having a central portion movable substantially parallel to said longitudinal axis in
 9 response to the movement of said diaphragm actuator,
 10 said pump housing including a plurality of heat transfer fins extending externally
 11 of said pump housing and oriented parallel to said diaphragm,
 12 so that air tends to be guided by said fins about the pump housing.

1 2. The fuel pump assembly of claim 1, wherein
 2 said heat transfer fins substantially encircle said pump housing and form there
 3 between air channels that substantially encircle said pump housing for guiding air about
 4 said pump housing.

1 3. The fuel pump assembly of claim 1, wherein
 2 said pump housing includes a pump bowl and a hood, both of which include said
 3 heat transfer fins.

1 4 The fuel pump assembly of claim 1, wherein
2 said pump bowl includes inlet and outlet ports, and
3 said heat transfer fins are interrupted by said inlet and outlet ports.

1 5. A fuel pump assembly for a combustion engine comprising:
2 a pump housing, said pump housing having a longitudinal axis, including:
3 a pump bowl including an exterior wall substantially coaxial with respect to said
4 longitudinal axis,
5 a hood mounted to said pump bowl and substantially coaxial with respect to said
6 longitudinal axis,
7 a diaphragm mounted between said pump bowl and said hood and extending
8 normal to said longitudinal axis and having a central portion movable parallel to said
9 longitudinal axis,
10 a plurality of parallel heat transfer fins extending externally of said pump bowl
11 and said hood and substantially encircling said pump bowl and said hood, and
12 said pump bowl including inlet and outlet ports.

1 6. The fuel pump assembly of claim 5, wherein
2 said heat transfer fins extend normal to said longitudinal axis, and said heat
3 transfer fins being interrupted by said inlet and outlet ports.

1 7. A fuel pump assembly of claim 5, and further comprising:
2 a mounting arm extending from said hood for mounting said fuel pump to an
3 engine block, and
4 cooling fins extending from said mounting arm for extracting heat conducted from
5 the engine block to the mounting arm.

1 8. A fuel pump assembly for an internal combustion engine of an automobile, the
2 engine having an exterior surface at which atmospheric air tends to flow in an
3 approximately constant direction in response to the movement of the automobile in a
4 forward direction, said fuel pump comprising:
5 a pump housing,
6 a fuel impeller in said housing,
7 a fuel inlet port and a fuel outlet port extending through said pump housing for
8 moving fuel into and out of said pump housing,
9 a plurality of cooling fins extending from said pump housing and oriented
10 substantially parallel to the anticipated direction of the flow of the air at the exterior
11 surface of the engine for channeling the air about said pump housing and increasing the
12 transfer of heat from said pump housing.

1 9. The fuel pump assembly of claim 8, wherein said fuel impeller in said housing
2 comprises a diaphragm extending parallel to said cooling fins.

- 1 10. The fuel pump assembly of claim 9, and further including a mounting arm and a
- 2 diaphragm actuator extending through said mounting arm, and cooling fins extending
- 3 from said mounting arm.